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Problem's a humdinger

A relentless buzz from an Xcel transformer complies with the law, but drives a neighbor to distraction.

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Five months after he bought a house in St. Paul's Merriam Park neighborhood, Ted McCaslin noticed a humming noise.

He heard it in the backyard.

He heard it at night.

It stressed him out.

It woke him up.

McCaslin thought he knew where it was coming from. A block away, Xcel Energy's electrical substation loomed over the corner of Iglehart Avenue and Asbury Street.

Substations emit a low-frequency hum, the result of metal vibrating inside transformers.

Last fall, McCaslin complained. That sole complaint triggered a months-long investigation into the source and intensity of the humming by the city of St. Paul's

Department of Safety and Inspections, Xcel Energy and a consultant hired by the power company. The St. Paul City Council, the Union Park District Council and the state Public Utilities Commission all know about it.

McCaslin, a 33-year-old environmental scientist, lives in a noisy part of St. Paul. The traffic roars on Snelling Avenue and Interstate 94. Factories churn and trains rumble. The noise investigators ruled out all those sources and determined that McCaslin was right -- the suspicious sound came from the substation.

At night, other noises fade and McCaslin is left with the hum. But it's a legal hum. At 51 DBA, it's four decibels below the regulatory limit.

Bill Gunther, St. Paul's environmental health manager, acknowledges that the sound could still be annoying to McCaslin, because he's probably sensitive, as some people are, to the low frequency.

"Most of the noise complaints that we have, it's not that we have a violation of noise standards," Gunther said. "They just don't want to hear that sound."

"It's kind of like a dripping faucet at night,"

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Gunther said. It's not particularly loud, but "it drives us up the wall."

Yet, under its noise ordinances -- mostly based on volume over time -- the city cannot force Xcel Energy to tone down its transformers. Gunther said the noise across the street from the substation, a block from McCaslin's house, is slightly above the city's limit. So the city will send a letter to Xcel, but the noise is not high enough to trigger any action.

"It's one of those situations, even if we have one complaint, we will investigate," said Xcel spokeswoman Patti Nystuen. "We investigated it thoroughly and made the determination that it's within the limits."

McCaslin says the noise is related to modifications at the substation in the summer of 2008, something Xcel Energy denies. In February, he sent an email to an Xcel official: "The substation was extraordinarily loud last night. I don't know if it was the rain or what, but it was louder than the last few months and pulsing at times. I was looking for Frankenstein to round the corner at 3:30 a.m."

McCaslin's next door neighbors, a group of Macalester College students, have never heard the hum. But they don't see McCaslin as a noise nag.

"We play music pretty loud a lot," said Corbin Cavallero, a sophomore from Oregon. "He's never complained to us."

McCaslin acknowledges that the city and Xcel Energy have been responsive. He thinks Xcel c ould extend an existing sound-dampening wall, installed in 2002 after previous noise complaints, so it muffles the hum that reaches his house. Meanwhile, he's considering organizing the neighborhood, or even moving away and renting out his house.

"If you don't sleep for 10 months, you start getting a little frazzled," he said.